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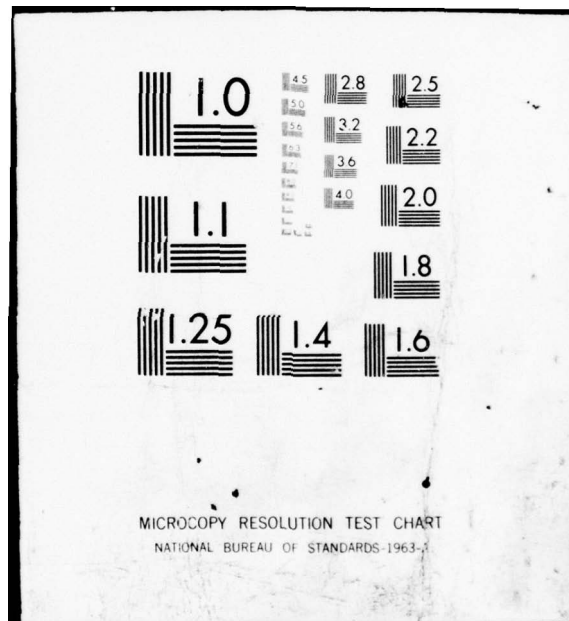
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ATTITUDES TOWARD SELECTED JOB CHARACTERISTICS
IN A WORKING POPULATION WITH CROSS-SAMPLE
ANALYSES FOR A COLLEGE SAMPLE

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Technical Report Number 5

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) ★ The research reported describes attitudes toward 26 job characteristics among a sample of 228 employees of Bell Telephone of Pennsylvania and a sample of 104 Bryn Mawr and Haverford College undergraduates. Ratings of the desirability and the importance of characteristics in an ideal job were compared by sex, race, age,		

education and sample. Young people, those without work experience, people who had been to college and women were more interested in intrinsic characteristics such as worthwhile work, self-improvement, congenial co-workers and freedom to carry out assigned tasks. Older people, people with work experience, those who had not been to college and men were more interested in pay, benefits, job security and career development. Women were more concerned than men with safety of the workplace and absence of danger. Women, especially younger women and black women, were more favorable than men toward affirmative action programs.

The industrial sample also rated the set of characteristics on the degree to which they were present in respondents' current jobs. These ratings were analyzed by sex, job type and tenure in the company. Workers reported higher levels of worthwhile work and freedom to carry out assigned tasks, and lower levels of uninteresting tasks and restrictions, as their tenure with the company increased.

Job satisfaction was addressed by comparing the desirability rating of each characteristic against its rating for degree of presence in the current job. An index of job satisfaction was constructed by summing these difference scores across the entire set of characteristics for each respondent. Job satisfaction was found to be positively correlated with tenure, but uncorrelated with race, sex or psychological sex role orientation.

Implications of findings for designing jobs, designing job situations and retention of populations defined by sex, age, race and education level are discussed.

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INTRODUCTION

The Office of Naval Research has sponsored research by the University City Science Center into issues pertinent to the utilization of women in the Navy. The purpose of the research is to investigate in a population similar to the enlisted force in the Navy, differences between men and women in perceptions and attitudes that could have an impact on their efficiency and satisfaction on the job. The research program has investigated:

- Sex differences in attributions of success and failure (Kipnis & Kidder, 1977)
- Multidimensional scaling (Tzeng & Landis, 1977)
- Psychological androgyny in a working population (Grissom et al., 1979)
- Working relationships between men and women (Good et al., 1979)
- Sex differences with respect to family and career values in a working population (Good & Kirkland, 1979)
- Sex differences in attitudes toward job characteristics.

This report describes the analyses of the data on sex differences in attitudes toward job characteristics.

METHOD

The research was designed to collect several sets of data from people who worked together, and from their first-line supervisors, so that a comprehensive analysis of relationships between demographic data, background information, job history, expectations for the future, and attitudes toward their jobs, spouses, co-workers, and supervisors (or subordinates in the case of supervisors) could be conducted. A self-administered survey instrument was developed and tested on populations of college students.

Subjects

A pilot version of the survey instrument was administered to a sample of 104 undergraduate student volunteers at Bryn Mawr and Haverford Colleges. A modified and condensed instrument was then administered to 280 employees of the Bell Telephone Company. The latter sample included 55 first-line supervisors and 225 of their subordinates. The Bell Telephone Company allowed company time for respondents to complete the survey. Subjects received stamped envelopes addressed to the Science Center for returning the questionnaires anonymously. Completed questionnaires were received from 228 respondents.

Characteristics of the Industrial Sample. The industrial sample included 124 women and 104 men, of whom 8 men and 27 women were black. The distribution of supervisors and nonsupervisors, and the sexual composition of work groups, are shown in Table 1.

Table 1
DISTRIBUTION OF RESPONDENTS BY WORK GROUP TYPE

Sex of Supervisor	Male	Male	Male	Female	Female	Female	
Sex of Subordinates	Male	Mixed	Female	Male	Mixed	Female	Total
Supervisors	11	7	6	2	9	9	44
Male Subordinates	32	20	0	6	22	0	80
Female Subordinates	0	19	18	0	36	31	104
Total Respondents	43	46	24	8	67	40	228

Respondents ranged in age from 20 to 59, with a mean age of 34.5. They had worked at Bell Telephone from 1 to 37 years, with an average of 12.6 years. Two thirds of the sample held one or no jobs prior to joining Bell Telephone; 95% expected to be working for the same company five years hence. Nearly all (94%) grew up in Pennsylvania or the northeastern United States; 47% were raised in urban areas, 32% in suburban areas, and 21% in rural areas and small towns.

Men in the sample had slightly more education than women: 100% of the men and 94% of women were high school graduates; 45% of the men and 31% of the women had attended or graduated from college.

Most respondents were married, including 84% of the men and 45% of the women. Forty men and 63 women had working spouses. A fifth of the women (21%) and 3% of the men were separated, divorced or widowed. The remaining 34% of the women and 14% of the men described themselves as single or engaged.

Perceived socioeconomic status of their families during the respondents' childhoods differed somewhat for men and women (Chi-square = 12.5, df = 4, p < .05). The five response categories are listed below with the proportion of men and women selecting each category in parentheses.

1. Money was no concern; we had almost everything we wanted (1% of men; 7% of women).
2. We could easily afford all necessities and some luxuries (18% of men; 17% of women).
3. With careful budgeting, we could afford necessities and an occasional luxury (68% of men; 50% of women).
4. We had difficulty making ends meet for necessities (11% of men; 20% of women).

5. We often could not make ends meet, so that we were recipients of public or private assistance (2% of men; 6% of women).

Characteristics of the College Sample. The college sample of 48 men from Haverford College and 56 women from Bryn Mawr College was geographically more diverse and socioeconomically more homogeneous than the industrial sample. Seventy percent were from the northeastern United States. Nearly all (90%) were white. More than half (54%) were raised in suburban areas, and only 27% in urban areas. Finally, 70% of the college sample responded in the first two categories of family socioeconomic status ("Money was no concern" or "We could easily afford all necessities and some luxuries").

Survey Instrument

The questionnaire included the following types of items: a) background, social and demographic facts; b) career and family issues; c) the Bem Sex-Role Inventory (BSRI) (Bem, 1974) with additional items appropriate for work settings, used as a self-description scale; d) a modified version of the BSRI and additional items on interactions in work settings, used as an attribution scale to describe selected target persons; e) a job characteristics scale.

The job characteristics scale included 26 job characteristics, 15 taken from the work of Seboda, Morris and Ward (1974) and 11 added for this research. Subjects rated the characteristics on each of three scales: first, desirability; second, importance in an ideal job; and third, the degree to which they existed in respondents' current jobs.

Data Analysis

The data were analyzed using t-tests to identify statistically significant differences between responses by men and women about the desirability and importance of job characteristics. Our two-sample design (college and industrial) allowed us to examine differences in ratings by sex, educational attainment (college and non-college), occupation (student and working), and age of respondents. Analysis of variance was used to locate significant effects of sample, sex and the other demographic variables in isolation or in interaction with other variables. Analysis of variance was also used to identify significant effects of sex and of job type on perceptions of the degree to which characteristics were present in current jobs.

An Index of Job Satisfaction was derived from summed differences between desirability of each characteristic and the degree to which the characteristic was present. Pearson correlations were used to determine relationships between the Index of Job Satisfaction and other variables.

RESULTS

Characteristics Sought in an Ideal Job (Industrial Sample)

Respondents rated each of 26 job characteristics on a 7-point Likert scale on its desirability in an ideal job, and on the importance they would attach to the characteristic in selecting a job. The relationships between relative desirability and importance of each characteristic as perceived by men and women are shown in Table 2. It is clear from Table 2 that men and women agreed generally on the characteristics which were desirable and important in considering a job. Mean rankings by men and by women coincided generally for 22 of 26 items. Table 2 also shows that relatively few characteristics were considered to be neutral or undesirable, and that none was considered unimportant. There were, however, differences in degree between men's and women's ratings on some items.

Differences by Sex. The mean ratings (1 is highest, 7 is lowest) arranged in order of descending desirability for the sample as a whole are presented in Table 3. Ratings by men and women of the 26 characteristics for desirability and importance were compared using *t*-tests. As shown in Table 3, women rated as significantly more desirable Congenial Co-Workers, Safe Workplace, Self-Actualization, Hard Work and Affirmative Action. Women rated Geographic Mobility, Travel, and Danger as more undesirable than did men. Men rated Supervisory Responsibility and Easy Work as more desirable, and Required Overtime as more undesirable than did women.

There were fewer differences between men and women on importance than on desirability of characteristics. Women rated Safe Workplace, Affirmative Action, and Danger as significantly more important considerations than did men.

Women rated Affirmative Action as both desirable and important, whereas men rated Affirmative Action as neutral in desirability and only somewhat important. One major effect of establishing affirmative action goals within the Bell Telephone Company was to increase job opportunities for men (as well as minorities). Prior to 1964 the majority of Bell employees were female; currently, the sexes are about equally represented. However, it is evident that within this sample, Affirmative Action was regarded as more beneficial to women.

Differences by Race. To examine differences in preferences for job characteristics by race, two-tail *t*-tests were conducted comparing ratings by 27 black and 94 white women. (There were too few non-white men to extend this analysis to male respondents.) As shown in Table 4, twelve items were rated higher by black women than by white women.

The black women's responses resembled men's in their acceptance of Travel and desire for Easy Work and Supervisory Responsibility. On the other hand, black women took more extreme positions on Affirmative Action and Physical Danger than did white women. They expressed their interest in High Pay, Advancement, Job Security and Self-Improvement in stronger terms than white women or men.

Table 2

JOINT DESIRABILITY AND IMPORTANCE RATINGS FOR Men, WOMEN, AND Both

	Very Important 1-2	Somewhat Important 2-3.5	Neutral 3.5-4.5
Very Desirable 1-2	<u>Job Security</u> <u>Benefits</u> <u>High Pay</u> <u>Congenial Co-Workers</u> <u>Advancement</u> <u>Freedom to Carry</u> <u>Out Tasks</u> <u>Promotion on Competence</u> <u>Self-Improvement</u> <u>Self-Actualization</u> <u>Responsible Position</u> SAFE WORKPLACE	<u>Safe Workplace</u> <u>Attractive Home Location</u> WORTHWHILE WORK	
Somewhat Desirable 2-3.5		WORTHWHILE WORK <u>Supervisory Resp.</u> <u>Prestige</u> AFFIRMATIVE ACTION	<u>Status</u> <u>Meet</u> <u>Opposite</u> <u>Sex</u>
Neutral 3.5-4.5		<u>Hard Work</u>	<u>Travel</u> <u>Easy Work</u> <u>Affirm.</u> <u>Action</u>
Somewhat Undesirable 4.5-6		Danger <u>Reguired Overtime</u> <u>Restrictions</u> <u>Mobility</u> <u>Uninteresting Tasks</u>	
Very Undesirable 6-7	DANGER		

Table 3

COMPARATIVE RATING OF JOB CHARACTERISTICS (INDUSTRIAL SAMPLE)

Characteristics	Mean Ratings			
	Desirability		Importance	
	Men	Women	Men	Women
Job Security	1.13	1.23	1.31	1.24
Fringe Benefits	1.24	1.17	1.38	1.26
High Pay	1.29	1.27	1.76	1.57
Congenial Co-Workers	1.41	1.24*	1.91	1.74
Safe Workplace	1.42	1.25*	2.05	1.55***
Advancement	1.39	1.38	1.58	1.68
Freedom To Carry Out Tasks	1.49	1.48	1.39	1.69
Promotion on Competence	1.49	1.50	1.36	1.40
Attractive Home Location	1.55	1.49	2.27	2.62
Self-Improvement	1.62	1.54	1.84	1.79
Self-Actualization	1.74	1.50*	1.90	1.65
Responsible Position	1.80	1.71	1.91	1.93
Worthwhile Activity	2.00	1.87	2.37	2.13
Prestige	2.44	2.34	3.22	2.97
Supervisory Responsibility	2.47	2.92*	2.88	3.19
Status	2.86	2.83	4.10	4.04
Hard Work	3.55	3.11*	2.88	2.70
Affirmative Action	4.27	2.51***	3.47	2.45***
Meet Opposite Sex	3.22	3.45	4.24	4.28
Travel	3.72	4.25*	3.81	3.89
Easy Work	3.82	4.33*	3.84	4.06
Restrictions	5.22	4.88	2.99	2.97
Required Overtime	5.01	5.40*	3.19	2.89
Geographic Mobility	5.04	5.82***	3.09	3.34
Uninteresting Tasks	5.74	5.73	3.46	3.41
Danger	5.79	6.28**	2.50	1.94*

Confidence interval for two-tail t -test:* $p < .05$; ** $p < .01$; *** $p < .001$

Table 4

IDEAL JOB RATINGS COMPARED BY RACE
FOR WOMEN (INDUSTRIAL SAMPLE)

Desirability Items (Black v. White Rating)	Importance Items (Black v. White Rating)
Affirmative Action (1.4 v. 2.8)***	Affirmative Action (1.1 v. 2.8)***
Travel (3.2 v. 4.4)**	Physical Danger (1.4 v. 2.1)*
Easy Work (3.5 v. 4.4)*	Easy Work (3.1 v. 4.2)*
High Pay (1.0 v. 1.3)*	High Pay (1.2 v. 1.6)**
Supervisory Responsibility (2.2 v. 3.0)*	Advancement (1.1 v. 1.7)**
	Self-Improvement (1.4 v. 1.9)*
	Job Security (1.0 v. 1.3)*

Note: 1 = Most Desirable/Important; 7 = Least Desirable/Important
* $p < .05$; ** $p < .01$; *** $p < .001$

Differences by Sex and Age

A third source of variation in responses is the age of respondents. Analysis of variance with sex and age group as categorical variables was performed on the set of desirability and importance ratings. Five age group were defined as follows:

<u>Age Group</u>	<u>Composition</u>
20-25	18 men, 33 women
26-30	27 men, 25 women
31-40	24 men, 31 women
41-50	26 men, 22 women
51-59	9 men, 12 women

There were significant main effects for age on the desirability of four job characteristics and on the importance of five (Table 5).

Table 5

MEAN RATINGS FOR CHARACTERISTICS OF IDEAL JOB WITH
SIGNIFICANT MAIN EFFECT FOR AGE

<u>Job Characteristics</u>	<u>Age Groups</u>				
	20-25	26-30	31-40	41-50	51-59
Desirability-High Pay*	1.1	1.4	1.2	1.3	1.5
Des-Self-Actualization**	1.3	1.4	1.7	1.7	2.1
Des-Advancement**	1.2	1.2	1.5	1.6	1.7
Des-Self-Improvement**	1.4	1.3	1.6	1.8	2.0
Importance-Restrictions*	3.5	2.9	2.5	2.8	3.1
Imp-Self-Actualization*	1.5	1.6	1.9	1.8	2.3
Imp-Affirmative Action*	2.8	2.5	3.1	3.5	2.8
Imp-Advancement*	1.3	1.3	1.6	1.7	1.9
Imp-Congenial Co-Workers*	1.6	2.0	2.1	2.7	1.7

* $p < .05$; ** $p < .01$

The analyses of variance indicate that people in their twenties have more interest in compensation, career development, and personal fulfillment than people who are more than 30 years old. Older people indicated a stronger interest in Congenial Co-Workers and Restrictions.

Two items showed significant interaction effects for sex by age group. Older women rated desirability of a Safe Convenient Workplace higher than young women, and than men in their age group ($p < .01$).

<u>Desirability--Safe Convenient Workplace</u>					
<u>Age Group</u>	20-25	26-30	31-40	41-50	51-59
Men	1.4	1.1	1.5	1.5	1.9
Women	1.3	1.3	1.4	1.1	1.0

The pattern of responses for importance of Congenial Co-Workers also had a significant interaction effect for age group by sex ($p < .01$). The youngest men and the older women assigned the highest rating. There was no difference between the sexes in mean ratings for the middle age groups.

<u>Importance--Congenial Co-Workers</u>					
Age Group	20-25	26-30	31-40	41-50	51-59
Men	1.3	2.0	2.1	1.9	2.3
Women	1.7	2.0	2.1	1.4	1.2

Differences by Sample, Sex, and Educational Level in Characteristics of an Ideal Job

Job characteristics ratings by the industrial and college samples were compared using a three-way analysis of variance design with sample, sex and education level as independent variables. Two-way interaction effects for sample by sex and sex by education level also were examined. For this analysis two education levels were defined: one included all of the college sample ($n = 104$) and those of the industrial sample who had attended or graduated from college ($n = 86$); the second included the remainder of the industrial sample who had a high school education or less ($n = 142$).

Of the 52 items analyzed (26 job characteristics rated for desirability and for importance in considering a job), a quarter showed no significant main effects or overall F -ratio. These thirteen items, listed in Table 6, are those for which apparent agreement existed among all respondents regardless of sex, education level, or whether employed or in college.

The remaining 39 items not included in Table 6 had at least one significant main effect; 35 of them had significant F -ratios for the three-way analysis of variance. Groups of job characteristics which had significant main effects for sample, sex and education level differences, respectively, are shown in Table 7, 8, and 9.

Table 6

JOB CHARACTERISTICS WITH NO SIGNIFICANT DIFFERENCES
BY SAMPLE, SEX, OR EDUCATION LEVEL

Desirability Items	Mean Rating	Importance Items	Mean Rating
Freedom to Carry Out Assigned tasks	1.4	Freedom to Carry Out Assigned Tasks	1.8
Promotion Based on Competence	1.5	Responsible Position	1.9
Attractive Home Location	1.5	Attractive Home	2.4
Prestige	2.5	Restrictions	3.0
Status	2.9	Mobility	3.1
Required Overtime	5.2	Required Overtime	3.1
		Status	4.1

The members of the industrial sample differed from the college students in their strong interest in compensation, in the career potential of their jobs, and in safety (Table 7). They disliked danger or having to move for the job. The college students attached greater importance to intrinsic characteristics of their work, especially as these related to personal fulfillment, and to freedom from dull work and restrictions.

Men rated one item, desirability of Supervisory Responsibility, higher than did women (Table 8). All other main effects for sex resulted from more emphatic ratings by women. Danger, Safety of the Workplace and Affirmative Action were of more concern to women than to men. Women also rated Hard Work as more desirable than did men. Both sexes rated Geographic Mobility as undesirable, but women regarded it more unfavorably than did men.

Comparison by educational level (Table 9) showed the college-educated respondents from both samples to have more interest in personal fulfillment, responsibility, and Affirmative Action than the non-college respondents. The latter group displayed stronger interest in career development and good personal relationships on the job.

Four job characteristics had a significant sex by sample interaction effect:

<u>Desirability--Affirmative Action</u> ($p < .0001$)			<u>Importance--Affirmative Action</u> ($p < .01$)		
	Male	Female		Male	Female
Work	4.3	2.5	Work	3.9	2.5
College	2.3	2.2	College	3.0	2.9

Table 7

CROSS-SAMPLE ANALYSIS OF VARIANCE: IDEAL JOB CHARACTERISTICS
WITH SIGNIFICANT SAMPLE MAIN EFFECT

Items Rated Higher by Working Sample (Working v. College Rating)	Items Rated Higher by College Sample (Working v. College Rating)
Des-Advancement (1.4 v. 1.8)***	Des-Meet Opposite Sex (3.3 v. 2.6)***
Imp-Advancement (1.5 v. 2.4)***	Imp-Meet Opposite Sex (4.3 v. 3.7)***
Imp-Promotion (1.4 v. 1.7)**	Des-Travel (4.0 v. 3.1)***
Imp-Prestige (3.1 v. 3.5)***	Imp-Travel (3.8 v. 3.2)**
Des-High Pay (1.3 v. 1.8)***	Imp-Easy Work (3.9 v. 3.4)**
Imp-High Pay (1.7 v. 2.7)***	Des-Worthwhile Work (1.9 v. 1.4)***
Des-Benefits (1.2 v. 1.8)***	Imp-Worthwhile Work (2.2 v. 1.8)***
Imp-Benefits (1.3 v. 2.5)***	Imp-Hard Work (2.8 v. 2.4)**
Des-Job Security (1.2 v. 2.0)***	Des-Self-Actualization (1.6 v. 1.2)***
Imp-Job Security (1.3 v. 2.5)***	Imp-Self-Actualization (1.8 v. 1.2)***
Imp-Sup. Respons. (3.0 v. 3.4)*	Des-Self-Improvement (1.6 v. 1.4)*
Des-Safe Workplace (1.3 v. 2.0)***	Des-Affirmative Action (3.3 v. 2.3)***
Imp-Safe Workplace (1.8 v. 2.8)***	Undes-Uninteresting Tasks (5.7 v. 6.5)***
Imp-Physical Danger (2.2 v. 2.7)*	Imp-Uninteresting Tasks (3.4 v. 2.5)***
Undes-Mobility (5.5 v. 5.0)*	Undes-Restrictions (5.0 v. 6.0)***

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 8

CROSS-SAMPLE ANALYSIS OF VARIANCE: IDEAL JOB CHARACTERISTICS
WITH SIGNIFICANT SEX MAIN EFFECT

Items Rated Higher by Men (Men's v. Women's Rating)	Items Rated Higher by Women (Men's v. Women's Rating)
Desirability-Sup. Resp. (2.6 v. 2.9)*	Des-Affirmative Action (3.6 v. 2.4)***
	Imp-Affirmative Action (3.3 v. 2.6)***
	Des-Congenial Co-Workers (1.4 v. 1.3)*
	Des-Benefits (1.5 v. 1.3)*
	Des-Hard Work (3.5 v. 3.0)*
	Des-Safe Workplace (1.7 v. 1.4)***
	Imp-Safe Workplace (2.3 v. 1.9)***
	Undes-Physical Danger (5.6 v. 6.3)***
	Imp-Physical Danger (2.6 v. 2.1)**
	Undes-Mobility (5.0 v. 5.6)*
	Undes-Easy Work (4.0 v. 4.4)*

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 9

CROSS-SAMPLE ANALYSIS OF VARIANCE: IDEAL JOB CHARACTERISTICS
WITH SIGNIFICANT EDUCATION LEVEL MAIN EFFECT

Items Rated Higher by College (College v. Non-College Ratings)	Items Rated Higher by Non-College (College v. Non-College Rating)
Desirability-Self-Imp. (1.4 v. 1.7)**	Des-Congenial Co-Workers (1.4 v. 1.2)*
Importance-Self-Imp. (1.7 v. 1.9)*	Imp-Congenial Co-Workers (1.9 v. 1.7)*
Des-Affirmative Action (2.6 v. 3.5)***	Des-Advancement (1.6 v. 1.5)*
Imp-Affirmative Action (2.8 v. 3.1)*	Des-Job Security (1.7 v. 1.1)*
Des-Self-Actualization (1.3 v. 1.7)***	Des-Easy Work (4.4 v. 3.9)*
Des-Sup. Resp. (2.7 v. 2.9)**	
Imp-Sup. Resp. (3.1 v. 3.2)*	
Imp-Resp. Position (1.6 v. 1.9)**	
Undes-Unint. Tasks (6.3 v. 5.5)***	

* $p < .05$; ** $p < .01$; *** $p < .001$

Desirability--Safe Workplace
($p < .05$)

	Male	Female
Work	1.4	1.2
College	2.4	1.8

Importance--Self-Actualization
($p < .05$)

	Male	Female
Work	1.9	1.7
College	1.1	1.3

Though college students rated Affirmative Action more desirable than did the industrial workers, female workers thought it was more important than students of either sex. Male workers gave Affirmative Action ratings far below those given by female workers, while male and female students' ratings were almost identical.

Men and women in the industrial sample rated the desirability of Safety in the Workplace more highly than did men and women in the college sample. Women rated Safety higher than did men in each sample.

Self-Actualization was rated as the most important job characteristic by college men. College women rated it as somewhat less important than did their male counterparts, and working women rated it as somewhat more important than did working men.

Characteristics of Current Jobs (Industrial Sample)

In addition to being asked for ratings of the set of job characteristics for an ideal job (on both desirability and importance), the industrial sample was also asked for ratings of the extent to which respondents' current jobs possessed each characteristic. The scale ranged from 1 (very little) to 7 (very much).

The jobs held by most of the members of the sample tended to be sex-typed, that is, most inside and outside crafts jobs were held by men, and most clerical and non-craft jobs (operator, sales representatives) were held by women. Administrative and supervisory jobs were held by about equal numbers of men and women. Comparing men's and women's ratings of their current jobs could be misleading unless job type is also examined as a source of variation in ratings.

In order to examine ratings of current jobs systematically, a four-way analysis of variance design was used, with sex, job type, supervisor or non-supervisor status, and years worked at Bell Telephone as categorical variables. Four two-way interactions were also examined. (The two-way interactions of years worked and of job type with supervisory status were excluded as autocorrelated). A four-level categorization of years worked at Bell permitted analysis of the relationship between ratings of a characteristic and tenure in the company.

Results of the analysis of variance showed no significant main or interaction effects for five characteristics. They are shown below with the mean ratings of the extent to which they were present in the respondents' current jobs:

Travel	1.4 ^a
Required Overtime	2.2
Congenial Co-Workers	5.1
Responsible Position	5.1
Job Security	5.1

^a 1 = very little; 7 = very much

Effects of Job Type on Perceptions. Of the remaining 21 job characteristics, 16 showed significant main effects for job type (Table 10).

Respondents in administrative/supervisory jobs, a category which included all supervisors as well as a few staff administrators, rated their jobs higher than workers in any other job type on eleven characteristics. Supervisory Responsibility was the only item which had a significant main effect for supervisory status, with a mean rating of 6.1 for supervisors and 2.4 for non-supervisors ($F(1,225) = 32.4, p < .0001$). The relatively greater responsibility and salary that accompany supervisory status probably account for the high mean rating of Attractive Home Location, Prestige, Benefits, Pay, and Freedom to Carry Out Assigned Tasks for those in administration. Supervisors also had the highest mean rating for Status, though all ratings of this item were well below the scale mean of 4.

Supervisors are partially responsible for upholding Affirmative Action guidelines within the company. This probably accounts for the high mean rating by supervisors for this item. Affirmative Action also showed a significant interaction effect for sex by job type ($F(3,222) = 3.4, p < .05$). In each job type men rated the characteristic as present to a greater degree than did women. For supervisors, the means were 6.5 for men and 6.0 for women. The highest and lowest means occurred in the clerical/secretarial job type. Men rated the presence of Affirmative Action 6.8 while women rated it 4.7 in this traditionally female job type.

All of the group means for Promotion Based on Competence were below the scale mean of 4. The interaction of sex by supervisory status for this item showed women and supervisors assigning higher ratings than did men and non-supervisors ($F(1,224) = 6.1, p < .05$).

Outside craft workers rated their jobs highest of all job types on three characteristics: Physical Danger, Opportunity to Meet Members of the Opposite Sex, and Mobility. The last of these was evidently interpreted to mean job-related moving about, as when outside craft workers go to homes or offices to install or repair equipment. The possibility of danger was also perceived as greater for these employees whose jobs require them to work in a variety of neighborhoods and settings. Since outside craft workers tend to be male and tend to be supervised by men, their high rating of opportunities to meet women on the job presumably refers to customers or to women in other job categories at Bell, and not to co-workers.

Table 10

CURRENT JOB: MEAN RATINGS FOR JOB CHARACTERISTICS
WITH SIGNIFICANT MAIN EFFECTS FOR JOB TYPE

	Outside craft 31 Men 0 Women	Inside craft 24 Men 14 Women	Clerical 6 Men 48 Women	Other Non-craft 15 Men 34 Women	Admini- stration 28 Men 26 Women
Promotion Based on Competence	2.5	3.1	2.9	3.7	3.9***
Attractive Home Location	4.8	4.3	4.0	4.0	5.2*
Status	1.7	2.2	2.6	2.4	2.8**
Supervisory Responsibility	2.0	2.4	2.4	2.5	5.4***
Physical Danger	4.6	1.9	1.5	1.2	1.9***
Fringe Benefits	5.5	5.3	5.6	5.7	6.1**
Safe Workplace	4.3	4.7	4.6	5.4	5.3**
Prestige	3.8	3.2	3.1	3.2	4.3***
Freedom to Carry Out Assigned Tasks	5.3	5.0	4.3	3.8	5.4*
Mobility	3.3	1.1	1.4	1.6	1.5***
High Pay	4.6	4.4	4.2	4.8	5.2***
Meet Opposite Sex	4.8	3.6	3.9	3.6	3.8*
Self-Actualization	4.3	3.0	3.3	3.4	4.5***
Self-Improvement	4.4	3.8	4.2	5.0	5.2***
Affirmative Action	5.2	5.3	4.9	5.2	6.2**
Hard Work	3.9	4.3	4.5	5.6	5.2***

* $p < .05$; ** $p < .01$; *** $p < .001$

Respondents in the other non-craft jobs, such as operators and sales representatives, had the highest mean rating for two items, Hard Work and Safe Workplace. The low rating of Safe Workplace by outside craft workers is associated with the increased possibility of danger discussed earlier. However, it is unclear why respondents in the three job types who generally work indoors at one location should rate differently the safety and convenience of their workplace. It is equally unclear why respondents in outside craft jobs should rate Hard Work below the scale mean of 4. Perhaps the high rating of Hard Work by other non-craft workers is associated with their high ratings of Pay and Benefits.

The ratings of Easy Work are an interesting contrast to those of Hard Work. Easy Work did not show a significant main effect for job type. It did have a significant interaction effect for sex and job type ($F(3,223) = 4.0, p < .01$). Only men in clerical and secretarial jobs rated Easy Work above average (4.7). Consistent with their rating of Hard Work in Table 11, workers in other non-craft jobs and administration had the lowest rating of Easy Work (2.3 to 2.9).

Effects of Tenure with the Company on Perceptions. Tenure in the company varied in the sample from 1 year to 37 years with a mean of 12.6 and a standard deviation of 8.8. Respondents were divided into approximate quartiles based on years worked, and this variable was entered into the four-way analysis of variance design. Nine job characteristics showed a significant main effect for years worked (Table 11). In addition, six items had significant interaction effects involving years worked.

Table 11

CURRENT JOB: MEAN RATING FOR ITEMS WITH SIGNIFICANT
MAIN EFFECT FOR YEARS WORKED

	Years Worked			
	1-5	6-9	10-20	20+
Attractive Home Location	3.8	4.6	4.4	4.9*
Restrictions	4.8	4.2	4.0	3.8*
Supervisory Responsibility	2.9	2.4	3.3	3.8***
Physical Danger	1.6	2.3	2.0	2.2*
Prestige	3.0	3.8	3.5	3.9**
Uninteresting Tasks	4.3	3.7	3.7	3.3*
Freedom to Carry Out Assigned Tasks	3.7	4.8	4.9	5.3***
Worthwhile Work	4.1	4.3	4.3	5.1*

* $p < .05$; ** $p < .01$; *** $p < .001$

The pattern of responses in Table 11 indicates that desirable characteristics are perceived to be present to a higher degree and undesirable characteristics are perceived to be present to a lower degree as employees' tenure with the company increases. Whether this trend results from improvements in the characteristics of the job over time, better characteristics of the jobs available to employees who have seniority or reach supervisory positions, self-selection by those who are dissatisfied, or adjustment of perceptions by employees who progressively commit themselves more completely to the company cannot be determined from the data available.

The prospect of higher levels of desirable characteristics in future administrative/supervisory jobs may have an impact on personnel retention. Although less than 20% of the respondents were in administrative/supervisory jobs at the time of the survey, more than 45% expected to hold administrative/supervisory positions in five years.

The pattern for Physical Danger, which shows an erratic increase with tenure, can be seen in the two-way interaction of job type and years worked ($F(12,214) = 1.8, p < .05$) (Table 12).

Table 12

TWO-WAY INTERACTION EFFECT OF JOB TYPE AND YEARS WORKED ON
PERCEPTIONS OF PHYSICAL DANGER IN CURRENT JOB

Job Type	Years Worked			
	1-5	6-9	10-20	20+
Outside Craft	5.5	5.4	4.7	3.7
Inside Craft	2.0	2.2	1.9	1.3
Clerical	1.6	1.6	1.1	1.9
Other Non-Craft	1.2	1.1	1.0	1.5
Administrative	2.7	1.3	1.8	2.0

Outside craft workers perceived their jobs as dangerous during the early years, with danger decreasing with tenure. Of those in predominantly female jobs (clerical and other non-craft) and in administration, the most recently hired and older workers perceived more danger.

The two-way interaction of job type and years worked for ratings of High Pay ($F(12,214) = 22.2, p < .05$) (Table 13) shows that those in clerical and secretarial jobs perceived their jobs as below average in Pay if they had worked more than nine years for the company. Inside craft workers rated the Pay associated with their jobs increasingly higher with greater tenure. Mean ratings by outside craft workers, other non-craft workers and those in administration increased inconsistently with greater tenure.

Table 13

INTERACTION EFFECT OF YEARS WORKED AND JOB TYPE ON
PERCEPTIONS OF HIGH PAY IN CURRENT JOBS

Job Type	Years Worked			
	1-5	6-9	10-20	20+
Outside Craft	4.5	4.4	4.7	4.8
Inside Craft	4.0	4.2	4.6	4.9
Clerical	4.4	5.3	3.7	3.5
Other Non-Craft	4.7	5.1	4.6	5.0
Administrative	4.7	5.0	5.4	5.1

Four other analyses showed significant two-way interaction effects for sex and years worked: Status ($F(3,223) = 5.2, p < .05$), Advancement ($F(3,223) = 2.9, p < .05$), Opportunity to Meet Members of the Opposite Sex ($F(3,222) = 3.5, p < .05$), and Attractive Home Location ($F(3,220) = 3.0, p < .05$).

Years Worked	<u>Status</u>		<u>Advancement</u>	
	Men	Women	Men	Women
1-5	2.5	2.4	4.2	4.0
6-9	1.8	3.4	3.4	3.7
10-20	1.9	2.3	3.4	3.6
20+	1.9	3.3	2.6	4.1

Women's ratings were generally higher than men's for both Status and Advancement. All of the cell means for Status are below average as are five of eight for Advancement. Only the most recently hired workers of both sexes and the longest tenured women rated Advancement opportunities as average or higher.

Years Worked	<u>Attractive Home Location</u>		<u>Meet Opposite Sex</u>	
	Men	Women	Men	Women
1-5	4.6	3.1	4.9	3.1
6-9	4.5	4.8	4.2	4.0
10-20	5.3	4.0	3.8	4.0
20+	5.1	4.6	4.2	3.2

For Attractive Home Location and Meeting the Opposite Sex, men's ratings were generally higher than women's. The least and most tenured women rated Meeting the Opposite Sex below average, and the newest men rated it furthest above average. The reasons for this pattern are unclear.

The lower rating by women of Attractive Home Location is somewhat puzzling. Far more women than men in the sample had working spouses (63 vs. 39) which would suggest that women's families would be better able to afford homes in attractive locations. However, there were many more single women (68, including 26 who were separated, divorced or widowed) than single men (17, including three who were separated or divorced) in the sample. This fact may account for females' lower ratings, especially if the national pattern of lower earnings by female workers holds for this sample. The higher rating by longer tenured men probably results from greater financial security associated with tenure in the workplace.

Effects of Sex on Perceptions. Five characteristics had a significant main effect for sex. Attractive Home Location and Affirmative Action were perceived to be present to a greater degree by men ($p < .05$ for both). Promotion Based on Competence, Hard Work ($p < .05$ for both) and Status ($p < .001$) were seen to be present to a greater degree by women. While main effects for sex were few, eight of the ten interaction effects discussed above included sex. In addition, job type was also related to sex since four of the five job types tend to be sex-typed. In sum, sex differences, including those implied by job type, were the major predictors of variance in perceptions of current jobs as well as in the ratings of ideal jobs.

Job Satisfaction: Ideal Versus Current Job

An index of Job Satisfaction was constructed as an indirect measure of job satisfaction for comparison with background variables, and as a measure of the congruence between preference for a characteristic and the degree to which it was present in the current job. Desirability ratings and current job ratings by each respondent were compared and difference scores computed for each of the 26 job characteristics. These 26 scores were then added to yield a Job Satisfaction Index which summarizes convergence of real and ideal job ratings for each respondent. The Job Satisfaction scores thus derived ranged from +3 for one respondent for whom the sum of scores for the 26 job characteristics was slightly positive (indicating a net "bonus" of presence over desirability)

to -96 for the respondent whose net job satisfaction was most negative (indicating a net "debit" of desirability over presence). The mean for the sample was -42 with a standard deviation of 20. The sample mean and standard deviation indicate that the great majority of respondents found their jobs less than ideal. This is, most respondents would like more of those characteristics they find desirable and less of those characteristics they find undesirable than they now have in their current jobs.

Product-moment correlations were computed between the Job Satisfaction Index and each of four other continuous variables: respondents' age, years worked at Bell Telephone Company, and the Masculinity and Femininity of respondents as measured by the Bem Sex-Role Inventory (Bem, 1974) (Table 14).

Table 14

CORRELATION OF JOB SATISFACTION INDEX
WITH AGE, TENURE AND PSYCHOLOGICAL SEX-TYPING MEASURES

	Age	Tenure	Masculinity	Femininity
Job Satisfaction Index	.30***	.32***	.03	.00
Tenure at Bell Telephone	.91***			

*** $p < .0001$

Job Satisfaction is positively correlated with years worked at Bell Telephone and with respondent's age. The correlations between the Job Satisfaction Index and the two psychological sex-typing measures were zero, indicating that sex-typing and job satisfaction are independent of one another.

Sex of respondents was one of four independent variables entered in an analysis of variance design with the Job Satisfaction Index as the dependent variable. The other categorical variables entered were job type, years worked (the same four level breakdown as was used in the analysis of variance of current job ratings), and a four level sex role classification variable derived from the Bem Sex-Role Inventory - Feminine-typed, Masculine-typed, Androgynous (high on both the masculine-typed and the feminine-typed dimensions), and Undifferentiated (low on both sex-typed dimensions). (For a more complete explanation of sex-role classifications, see Technical Report No. 6 of this series.) Interaction effects for sex by sex role classification, sex by job type, sex by race, and race by sex role classification were also examined.

The overall F-ratio for the four-way analysis of variance was highly significant ($F(22,182) = 2.7, p < .001$) as were the main effects for job type and years worked. Supervisors had the highest mean scores on the Job Satisfaction Index among the five job types ($F(4,220) = 6.5, p < .001$). Longer tenure was associated with higher job satisfaction ($F(3,201) = 5.5, p < .001$).

The effects of sex of respondents, sex-role classification, and all interaction effects were not significant. The interaction effect of sex by job type ($F(3,201) = 2.6; p < .06$) approached significance. The pattern of mean Job Satisfaction Index scores by job type and sex showed that men and women in administrative jobs had the highest mean job satisfaction (-31). The next

highest mean (-39) was for women in inside craft jobs, a nontraditional job type for women. Third in order of mean job satisfaction were men in clerical and secretarial jobs (-41), a nontraditional job type for men.

DISCUSSION

Men and women agreed on which job characteristics were attractive (top 13), which were marginal (middle 8), and which were unattractive (bottom 5) (see Table 3). Within these three categories there was variation between men's and women's responses that could be important in recruiting and retaining men and women, and in making it possible for them to work together harmoniously and productively.

The most dramatic differences between men and women were on Affirmative Action. Though the introduction of Affirmative Action plans at Bell Telephone Company has done more to open opportunities for men in traditionally female jobs than it has to open opportunities for women in traditionally male jobs, the male respondents in the industrial sample perceived Affirmative Action as somewhat undesirable and netural in importance. Black women were the only subgroup to rate Affirmative Action as very desirable and very important. White working women and college men and women rated Affirmative Action as somewhat desirable and somewhat important. Affirmative Action is perceived as an indispensable characteristic by working women (especially black women) but unattractive to white working men. The young college students extolled Affirmative Action as an idea, but it was less important to them in selecting a job. The challenge to management is to make Affirmative Action credible to minority employees while convincing white male employees that their opportunities are not substantially curbed. Neglect of the sensibilities of either group could have serious consequences for morale, retention, and productive interracial collaboration.

Another important difference between men and women concerned the question of safety, as expressed in two job characteristics: Safe Workplace and the poossibility of Physical Danger.

<u>Industrial Sample Job Characteristic</u>	<u>Mean Desirability</u>		<u>Mean Importance</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
Safe Workplace	1.4	1.2	2.0	1.6
Danger	5.8	6.3	2.5	1.9

The question of safety was more salient for women on all four measures. The members of the college sample rated the desirability of a Safe Workplace significantly lower (men 2.4, women 1.8) than did the workers, but they did not differ significantly from the workers on the desirability of avoiding danger. Women's concern for safety is stable across age and education categories. Particular attention to this issue is appropriate in designing job situations to be attractive to women.

There were significant differences in ratings of desirability of three extrinsic characteristics of the job situation: Geographic Mobility and Travel which women found more undesirable than did men, and Required Overtime which men found more undesirable. The desire of women for stability in the job situation is evident in their dislike of having to move or travel for the job.

A consistent trend is evident in female workers' interest in the intrinsic nature of their jobs, and in men's preference for career values. Women gave significantly higher ratings than men to Self-Actualization and Congenial Co-Workers, and nonsignificant but consistently higher ratings to self-Improvement, Responsible Position, and Worthwhile Activity. Men rated Supervisory Responsibility significantly higher than did women. Women were significantly more willing to accept Hard Work, and men were significantly more interested in Easy Work, though all ratings were in the neutral zone.

Younger workers favored Self-Actualization, Self-Improvement, and Advancement more than older workers did. Youth was also associated with higher ratings for High Pay. The youngest and the oldest gave the highest ratings to Congenial Co-Workers. Respondents from either sample who had been to college showed a response pattern similar to the younger members of the industrial sample. They rated intrinsic job characteristics - Self-Improvement, Self-Actualization, and Responsible Position higher than the noncollege respondents, and they rated Uninteresting Tasks as more undesirable. The respondents who had been to college also rated Supervisory Responsibility higher. Noncollege respondents rated Congenial Co-Workers, Easy Work, Advancement, and Job Security higher than the respondents who had gone to college. Comparison of responses by the Bryn Mawr-Haverford College sample and the industrial sample showed differences between the views of a young, highly educated, economically advantaged population toward future jobs and the attitudes of a sample of middle-American industrial workers. The students rated intrinsic characteristics - Self-Actualization, Self-Improvement, Worthwhile Work, Hard Work, and avoidance of Uninteresting Tasks - higher than did the workers. The workers rated compensation characteristics - High Pay, Benefits, and Job Security - much higher than the students did. The workers also rated career characteristics higher: Advancement, Promotion, and Supervisory Responsibility.

Three trends emerge from these analyses:

- Young people, people without work experience, better educated people, and women are more interested in the intrinsic characteristics of their jobs. These characteristics would be relatively more important in attracting employees and keeping them for the first few years.
- Older people, people with work experience, people who have not been to college, and men are more interested in compensation and career development. These characteristics would have relatively greater importance in retention. Sex and educational level should be considered in designing job situations to meet both recruiting and retention objectives.

- Among the members of the industrial sample, four intrinsic characteristics - Freedom, Worthwhile Work, absence of Restrictions, and absence of Uninteresting Tasks - were reported to be present to a greater extent in their jobs by workers in each successive length of service category.

The apparent correlation between length of service and job satisfaction was confirmed by the positive correlation between the Index of Job Satisfaction and length of service. It is not clear why Bell Telephone workers become better satisfied with their jobs the longer they stay with the company. Dissonance reduction may be a factor, as may be changes in the nature of the working conditions of senior as compared to junior employees. It is clear that workers expect to be promoted to supervisory or administrative jobs, and that those who hold those jobs find high levels of desirable characteristics in them. Junior personnel stay on at Bell in spite of the presence of relatively low levels in their jobs of the characteristics they deem important and desirable. One reason for their staying with the company may be the expectation of more satisfying supervisory or administrative positions in the future. Another reason may be the attractiveness of characteristics found by workers in every category to be present to a high degree: Congenial Co-Workers, Responsible Position, Fringe Benefits, and Job Security. Feeling they are with agreeable people doing important work seems to have strong appeal to the workers in our sample.

CONCLUSIONS

In designing jobs to be attractive to present workers and possible recruits, the results of this research suggest several themes, each of which has subtle variations.

To recruit young people, the promise of high pay, intrinsically rewarding work, and chances to get ahead are of greatest importance. Women are somewhat more interested in the intrinsic nature of their work; men are somewhat more interested in career development.

Retention is supported by the credible expectation of future gratification, a feeling of being cared for, and intrinsic satisfactions. Women respond somewhat more strongly to intrinsic characteristics and to assurances of safety while men are concerned with indications of success later in their careers as well as at the beginning.

The most striking finding of this research is the value of intrinsic characteristics - especially Self-Actualization, Responsible Position, Congenial Co-Workers, and Freedom to Carry Out Tasks - to members of a working population. Members of both sexes scorned Prestige and Status. Various types of compensation comprised the most desired characteristics, but High Pay was rated as less important than Job Security and Fringe Benefits. Unpleasant extrinsic characteristics were of little consequence compared to compensation, career development, and intrinsic characteristics.

The findings of this research indicate that it is possible to design job situations in ways that will maximize their attractiveness and retention potential for members of specific target groups identified by sex, age, race, education level, or a combination of these factors.

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